ANALYTICAL REPORT

HU-308 (C27H42O3)

[(1R,2R,5R)-2-[2,6-dimethoxy-4-(2-methyloctan-2-yl)phenyl]-7,7-dimethyl-4-bicyclo[3.1.1]hept-3-enyl] methanol

Remark – other active cpd. detected: none

<table>
<thead>
<tr>
<th>Sample ID:</th>
<th>1226-15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample description:</td>
<td>powder - white</td>
</tr>
<tr>
<td>Sample type:</td>
<td>RM-reference material</td>
</tr>
<tr>
<td>Comments¹:</td>
<td>Chiron AS Lot#15568; RESPONSE -purchasing</td>
</tr>
<tr>
<td>Date of entry:</td>
<td>8/31/2015</td>
</tr>
</tbody>
</table>

Substance identified-structure² (base form)

![Chemical Structure](image)

Systematic name: [(1R,2R,5R)-2-[2,6-dimethoxy-4-[2-methyloctan-2-yl]phenyl]-7,7-dimethyl-4-bicyclo[3.1.1]hept-3-enyl] methanol

Other names:

Formula (per base form) C27H42O3

Mᵦ (g/mol) 414.62

Salt form: base

StdInChIKey CFMRIVODIXTERW-BHIFYINESA-N

Compound Class Cannabinoids

Other active cpd. detected none

Add.info (purity..) 99%

¹ This report has been produced with the financial support of the Prevention of and fight against crime Programme of the European Union (grant agreement number JUST/2013/ISEC/DRUGS/AG/6413). The contents of this report are the sole responsibility of the National Forensic Laboratory and can in no way be taken to reflect the views of the European Commission.

² Created by OPSIN free tool: [http://opsin.ch.cam.ac.uk/](http://opsin.ch.cam.ac.uk/) DOI: 10.1021/c1100384d
Supporting information

<table>
<thead>
<tr>
<th>Analytical technique</th>
<th>applied</th>
<th>remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>GC-MS (EI ionization)</td>
<td>+</td>
<td>NFL GC-RT (min): 11,22 BP(1): 277; BP(2): 353, BP(3): 318,</td>
</tr>
<tr>
<td>FTIR-ATR</td>
<td>+</td>
<td>direct measurement</td>
</tr>
<tr>
<td>GC-IR (condensed phase)</td>
<td>+</td>
<td>spectrum is always for the base form of compound</td>
</tr>
</tbody>
</table>

**GC-MS** (Agilent):
GC-method is RT locked to tetracosane (RT=9.53 min).
Injection volume 1 ml and split mode (1:50).
Injector temperature: 280 °C.
Chromatographic separation
Column: HP1-MS (100% dimethylpolysiloxane), length 30 m, internal diameter 0.25 mm, film thickness 0.25 mm.
Carrier gas He: flow-rate 1.2 ml/min. GC oven program: 170 °C for 1 min, followed by heating up to 293 °C at a rate of 18 °C/min, hold for 6.1 min, than heating at 50 °C/min up to 325 °C and finally 2.8 min isothermal.
MSD source EI = 70 eV. GC-MS transfer line T= 235°C, source and quadrupole temperatures 280°C and 180°C, respectively. Scan range m/z scan range: from 50 (40) to 550 amu.

**FTIR-ATR** (Perkin Elmer): scan range 4000-400 cm-1; resolution 4cm-1

**GC- (MS)-IR** condensed phase (GC-MS (Agilent) & IR (Spectra analyses-Danny) IR scan range 4000 to 700, resolution 4cm-1
GC-method:
Injection volume 1 ml and split mode (1:5).
Injector temperature: 280 °C.
Chromatographic separation
Column: HP1-MS (100% dimethylpolysiloxane), length 30 m, internal diameter 0.25 mm, film thickness 0.25 mm.
Carrier gas He: flow-rate 1.2 ml/min. GC oven program: 170 °C for 1 min, followed by heating up to 293 °C at a rate of 18 °C/min, hold for 6.1 min, than heating at 50 °C/min up to 325 °C and finally 2.8 min isothermal.
Split MS : IR : (1:9)
MSD source EI = 70 eV. GC-MS transfer line T= 235°C, source and quadrupole temperatures 280°C and 180°C, respectively. Scan range m/z scan range: from 50 (40) to 550 amu.
IR (condensed phase): IR scan range 4000 to 700, resolution 4cm-1
FIGURES OF SPECTRA

MS (EI)

Abundance

Scan 833 (11.224 min): HU-308_ID=239_15.D\data.ms

m/z→

420 400 380 360 340 320 300 280 260 240 220 200 180 160 140 120 100 80 60 40

65000 60000 55000 50000 45000 40000 35000 30000 25000 20000 15000 10000 5000

71.0 119.0 151.0 180.0 207.0 231.0 318.2 353.2 396.2
**FTIR-ATR**

- FTIR-ATR spectra showing various wavenumbers and transmission percentages.

**IR-condensed phase**

- IR spectrum for the condensed phase of the sample HU-308 1226-15.

Note: This is condensed phase IR (per base form of substance).

Instrument: (Discover IR-GC)